No. 755,091. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH A. WILLIAMS, OF CLEVELAND, OHIO, ASSIGNOR TO THE WILLIAMS TELEPHONE & SUPPLY COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF WEST VIRGINIA.

TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 755,091, dated March 22, 1904.

Application filed April 10, 1903. Serial No. 151,985. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. WILLIAMS, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Telephone-Transmitters; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in a telephone-transmitter.

The object of this invention is to provide a device of this character which will be very sensitive to the action of sound-waves and which will not be affected by changes of temperature.

My invention therefore consists in providing new and improved means for supporting the carbon-receptacle, so that it will be self-adjusting and accommodate itself to any change in the position of the diaphragm or any inequality or irregularity in the retaining-ring in order that it will at all times be in perfect alinement with the diaphragm.

My invention therefore consists in the features of construction and combination of parts hereinafter described in the specification, pointed out in the claims, and illustrated in the drawings.

In the accompanying drawings, Figure 1 is a central section of my device. Fig. 2 is a bottom plan of the same.

Again referring to the drawings, a represents an annular casing, in the center of which is formed an opening a', around which on the outer surface of the casing a is formed an annular exteriorly-screw-threaded flange a^2. To the flange a^2 is screwed a mouthpiece b, provided with a perforated disk c at its inner end of the usual construction. In the casing a near its rim is formed an annular shoulder d, which constitutes the seat for the diaphragm e, by means of which the said diaphragm e is supported from the said casing a, so that practically its entire surface is exposed to the action of the sound-waves. Within the casing a is arranged a ring f, which is secured in the casing a and clamped against the diaphragm e by means of screws f'. At diametrically opposite points on said ring f are arranged arms f^2 and f^3, respectively, preferably formed integral with the said ring. On the outer ends of the respective arms f^2 and f^3 are formed flanges f^4 and f^5, respectively, arranged at right angles to the said arms. A bridge g extends between the arms f^2 and f^3 and is secured to the respective flanges f^4 and f^5 by means of screws g^2 and g^2. The screws g^2 and g^2 are insulated from the respective flanges f^4 and f^5 by means of insulating-rings h, and the bridge g is also insulated from the respective flanges f^4 and f^5 by means of washers h', of some insulating material.

The carbon-holding receptacle comprises an annular concave plate i, around the perimeter of which is formed a flange i'. This flange i' is arranged so that when the said plate i is adjusted toward the diaphragm the said flange i' will stand farther away from the diaphragm than the said plate and leave a wide space for the reception of the retaining-ring j, of felt or similar material, and the said ring can therefore be made much thicker than the one now in use and will therefore offer very slight resistance to the vibration of the diaphragm.

In the center of the plate i is arranged a cone-shaped projection i^3, which is preferably provided with a head i^4. A spring k is secured at one end to the bridge g by a screw k' and in its other end is formed an eye k^2, adapted to slip over the end of the stud i^3. The arrangement of the cone-shaped projection and the eye k^2 in the end of the spring k constitutes what might be termed a "universal" bearing between the spring k and the carbon-receptacle, which allows the said receptacle to aline itself evenly against the diaphragm and compensate for any irregularity in the retaining-ring or in the mounting of the diaphragm.

An adjusting-screw l is mounted in the bridge g and arranged to come into contact with the head i^4 of the stud i^3. A pad l', of felt or similar material, is arranged between said head i^4 and the end of the screw l. This